

**COMBINED TRANSMITTAL OF APPEAL BRIEF TO THE BOARD OF PATENT  
APPEALS AND INTERFERENCES & PETITION FOR EXTENSION OF TIME**  
UNDER 37 C.F.R. 1.136(a) (Large Entity)

Docket No.  
**FISERV-1**

In Re Application Of:

**John R. Stevens**

DEC 03 2007

Application No.

Filing Date

Examiner

Customer No.

Group Art Unit

Confirmation No.

09/506,432

February 17, 2000

John R. Stevens

45,722

3627

6452

Invention: **WORKERS' COMPENSATION INFORMATION PROCESSING SYSTEM**

TO THE COMMISSIONER FOR PATENTS:

This combined Transmittal of Appeal Brief to the Board of Patent Appeals and Interferences and petition for extension of time under 37 CFR 1.136(a) is respectfully submitted by the undersigned:

  
Signature

Dated: **November 30, 2007**

**Edward J. Howard, Esq.**  
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**Before the Board of Patent Appeals and Interferences**

Applicant : John R. Stevens  
Serial No. : 09/506,432  
Filed : February 17, 2000  
For : WORKERS' COMPENSATION INFORMATION PROCESSING  
SYSTEM  
Examiner : Frenel, Vanel  
Art Unit : 3627

**APPEAL BRIEF**

May It Please The Honorable Board:

This is Appellants' Brief on Appeal from the final rejection of Claims 1, 4, 6, 8-14 and 72-75, a Notice of Appeal having been filed on July 30, 2007, being extended by two months through and including November 30, 2007. Accordingly, this Appeal Brief is timely filed. Appellants waive an Oral Hearing for this appeal.

Please charge any additional fee or credit overpayment to the Deposit Account No. 50-3208. A single copy of the Brief has been enclosed.

**I. REAL PARTY IN INTEREST**

The real party in interest of Application Serial No. 09/506,432 is

Fiserv Health, Inc.  
5500 Wayzata Boulevard  
Colonnade Building, Suite 500  
Minneapolis, MN 55416

**II. RELATED APPEALS AND INTERFERENCES**

There are currently, and have been, no other related Appeals or Interferences regarding the subject application known to the undersigned attorney.

**III. STATUS OF THE CLAIMS**

Claims 1, 4, 6, 8-14 and 72-75 are pending.

Claims 2-3, 5, 7 and 55- 71 have been canceled.

Claims 1, 4, 6, 8-14 and 72-75 stand rejected.

Claims 16 – 54 have been withdrawn.

The rejection of Claims 1, 4, 6, 8-14 and 72-75 are appealed.

**IV. STATUS OF AMENDMENTS**

All prior amendments were entered. The claims included in the attached Claims Appendix reflect each of the prior amendments.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

This summary sets forth exemplary reference characters and pages and line numbers in the specification where an embodiment of each separately argued claim is illustrated or described. The identification of reference characters and pages and line numbers does not constitute a representation that any claim element is limited to the embodiment illustrated at the reference character or described in the referenced portion of the specification.

Independent Claim 1 is directed to a system for assisting providers to prepare billings associated with workers' compensation claims. *See, e.g., specification, page 8, lines 7-10 ("Fig. 1 illustrates a Workers' Compensation claim verification system of one embodiment of the invention. A provider computer 40 has access to Workers' Compensation software which can be stored at the server or at the provider computer. The provider can be a doctor, pharmacy or other medical professional."); see also, specification, page 8, lines 23-24 ("In a preferred embodiment, a number of different providers (not shown) are connected to the Workers' Compensation claim verification system 44"); see also, page 10, lines 1-6 ("the Workers' Compensation software includes medical report and billing software which ... inserts the claim number, once obtained, into reports and bills to be sent out."); see also, Fig. 1.* The recited system of Claim 1 includes a verification system and software accessed at a plurality of provider computers. *See, Id.*

The provider computer software prompts providers to input data concerning workers' compensation claims. *See, e.g., specification, page 8, lines 16-21 ("The Workers' Compensation software prompts the provider to input data sufficient to identify the Workers' Compensation claim. This data includes name, social security number, and injury date... Additional data such as employer number and insurer name can also be provided.")*. The provider computer software sends electronic claim number requests containing at least some of the inputted data across the Internet to the workers' compensation claim verification system. *See, e.g., specification, page 8, lines 11-12 ("The provider computer is operably connected with the Workers' Compensation verification system 44."); see also, specification, page 12, lines 16-18 ("In step 50, the provider, using the software program, sends an electronic inquiry request across the Internet to the Workers' Compensation claims verification system."); see also, Fig. 2.*

The Workers' Compensation claims verification system receives the data sent from provider computer software; and determines whether matching workers' compensation claim numbers associated with the received data exist. *See, e.g., specification, page 12, lines 18-19*

*("In step 52, it is determined whether the inquiry refers to a claim number in the Workers' Compensation claim verification system's database."); see also, Fig. 2. The Workers' Compensation claim verification system electronically supplies matching workers' compensation claim numbers determined to exist to corresponding ones of the sending provider computers, wherein the providers use said supplied claim numbers to prepare the billings. See, e.g., specification, page 12, lines 19-21 ("If so, in step 54, the claim verification system automatically sends an indication of the Workers' Compensation claim number to the provider."); see also, page 10, lines 1-6 ("the Workers' Compensation software includes medical report and billing software which ... inserts the claim number, once obtained, into reports and bills to be sent out."); see also, Fig. 2.*

The Workers' Compensation claim verification system also automatically sends an indication of the lack of determining the workers' compensation claim number to at least one of a plurality of payer computers, each being associated with a different payer, for each matching workers' compensation claim number determined not to exist. *See, e.g., specification, page 12, lines 23-26 ("In step 56, if the database does not contain the claim number, the claim verification system automatically sends an early alert message to the payer. In step 58, the payer prompts an employer to provide a claim incident report, submission of which allows a payer to assign a Workers' Compensation claim number."); see also, specification, page 9, lines 13-17 ("The Workers' Compensation claim verification system 44 is also not payer system dependent. Multiple payers' data can be stored in the Workers' Compensation claim verification system 44. The provider need only interface with the Workers' Compensation claim verification system 44 rather than interfacing with a variety of payer computers."); see also, Fig. 2.*

Claim 1 thus broadly encompasses: (1) software accessed at a plurality of provider computers (1a) prompting a provider for Workers' Compensation claim data, and (1b) sending at least part of that data to a verification system; and (2) a verification system (2a) determining whether a matching claim number exists for the sent data, and (2b) if a matching claim number does exist, sending it to the corresponding provider computer, where it is used in preparing billings and (2c) if a matching claim number does not exist, sending an indication thereof to payer computer(s). All of the remaining claims depend from independent Claim 1.



**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The Examiner has finally rejected Claims 1, 4, 6, 8-14 and 72-75 as being unpatentable under 35 U.S.C. §103(a) over the Leslie article ("High Tech Sleuths", Leslie Hann, Best's Review, Nov. 1998) in view of the John article ("Technology: Unlocking the Neural Network", John Mutch, Risk and Insurance, Jan. 1999).

## **VII. ARGUMENT**

The Examiner has failed to establish a *prima facie* case that the systems of Claims 1, 4, 6, 8-14 and 72-75 are unpatentable over Leslie in view of John, at least by virtue that: (1) Leslie and John fail, in any combination, to teach or suggest each of the recited limitations of any of the pending claims; and/or (2) Leslie and John fail to place the public in possession of the invention recited by any of the pending claims.

### **A. Claim 1 Is Directed To Assisting Medical Providers To Prepare Workers' Compensation Billings.**

Workers' compensation is a class of government mandated insurance that provides employees with medical and disability benefits for injury or illness incurred in the course of employment. Workers' compensation insurance does not typically require written documentation that identifies the insured persons. Accordingly, lists of covered employees may not be maintained.

Accordingly, when an employee incurs an injury or illness and seeks treatment, matching the claim to the payer responsible for payment may be difficult. Typically neither the injured employee nor the medical provider knows the identity of the payer, no less the workers' compensation claim identifier the payer requires to make payment. Untimely payments for medical services rendered often result.

Claims 1, 4, 6, 8-14 and 72-75 seek to address this problem by providing a system for assisting providers to prepare billings associated with workers' compensation claims. The claimed system includes: (1) software accessed at provider computers (1a) prompting a provider for Workers' Compensation claim data, and (1b) sending at least part of that data to a verification system; and (2) a verification system (2a) determining whether a matching claim number exists for the sent data, and (2b) if a matching claim number does exist, sending it to the corresponding provider computer, where it is used in preparing billings and (2c) if a matching claim number does not exist, sending an indication thereof to payer computer(s).

### **B. Standard For Unpatentability Pursuant to 35 U.S.C. 103(a)**

The Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art. *In re Piasecki*, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). To establish a *prima facie* case of obviousness under 35 U.S.C. 103(a), all

of the recited claim limitations must be taught or suggested in the prior art. *See, M.P.E.P.* 706.020); *see also, M.P.E.P.* 2143.03 citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) ("All words in a claim must be considered in judging the patentability of that claim against the prior art.") and *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Appellant may traverse the Examiner's *prima facie* determination as improperly made out. *In re Heldt*, 58 C.C.P.A. 701, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970).

### **C. A *Prima Facie* Case Of Obviousness Is Lacking**

Appellant traverses the Examiner's *prima facie* determination of unpatentability as being improperly made out, as Leslie and John fail, in any combination, to teach or suggest each of the limitations of any of the pending Claims 1, 4, 6, 8-14 and 72-75.

Leslie and John fail, in any combination, to teach or suggest the recited verification system of Claim 1. As set forth above, Claim 1 is directed to a system for assisting providers to prepare billings associated with workers' compensation claims that includes, *inter alia*: a verification system: (2a) determining whether a matching claim number exists for workers' compensation claim data sent from a plurality of provider computers, (2b) if a matching claim number does exist, sending it to the corresponding provider computer, where it is used in preparing billings, and (2c) if a matching claim number does not exist, sending an indication thereof to payer computer(s).

#### **1. *Leslie and John fail to teach or suggest a verification system that matches and sends workers' compensation claim numbers to providers for use in preparing billings***

Leslie and John fail, in any combination, to teach or suggest: a verification system determining whether a matching claim number exists for workers' compensation claim data sent from a plurality of provider computers (designated 2a), and if a matching claim number does exist, sending it to the corresponding provider computer, where it is used in preparing billings (designated 2b).

The September 25, 2006 Office action argues Leslie discloses a workers' compensation claims verification system that receives claims data and electronically supplies matching claim numbers to provider computers, where they are used to prepare billings.

9/25/2006 Office action, pg. 3, ll. 3-15. Applicant traverses this assertion.

A detailed review of Leslie reveals that this is not the case. At the outset, Applicant notes Leslie discusses “fraud detection”. Fraud detection occurs after billings have been made and submitted for payment. Fraud detection is not used to assist providers to prepare billings associated with workers’ compensation claims.

Further, Leslie fails to teach or suggest each of the recited features of the verification system of Claim 1. The Office action cites the first four paragraphs on page 3 of Leslie as purportedly teaching a verification system that receives data contained in electronic claim number requests. *See, 9/25/2006 Office action, pg. 3, ll. 3-9.* This is wholly without merit.

The first paragraph on page 3 of Leslie recites:

Infoglide's product “is very good at identifying fraud rings,” Francis said. “But, that’s the downside too, because most fraud that occurs is on an individual basis.” PMSC also is evaluating software that scores individual claims based on the likelihood that they are fraudulent. That software, offered by HNC Insurance Solutions, a business unit of HNC Software Inc., Irvine, Calif., is based on the same technology that HNC’s parent company uses to detect credit card fraud.

Thus, the first cited paragraph simply discusses fraud detection as it relates to fraud rings and on an individual basis.

The second paragraph on page 3 of Leslie recites:

In a 1996 study, Conning estimated that insurers lost \$19.4 billion to claims fraud in 1994 and \$163 billion over the previous 10 years. Fraudulent claims in workers’ compensation “easily outstrip those in other lines of business,” according to the report. It attributed 25% of workers’ compensation losses, or \$5.66 billion, to fraud in 1994 and \$58.7 billion over the previous 10 years.

Thus, the second cited paragraph merely discusses that fraud is especially problematic with respect to workers’ compensation claims.

The third paragraph on page 3 of Leslie recites:

In six months, HNC's software helped Workers' Compensation Fund of Utah identify 50 fraudulent claims, saving \$500,000 on the first eight cases that were closed, said Bob Short, senior vice-president of the Salt lake City-based insurer.

Thus, the third cited paragraph merely discusses a particular fraud detection experience.

The fourth paragraph on page 3 of Leslie recites:

The VeriComp Claimant Fraud and Abuse Detection System software scores all open claims weekly based on 62 factors. The system automatically alerts adjusters to claims that score 500 or more, and the claims that hit 800 are automatically referred to a special investigator, Short said. The notices indicate why the system flagged the claim as potentially fraudulent.

Thus, the fourth cited paragraph merely discusses the purported operation of a particular fraud detection system.

Accordingly, it is clear that the cited portions of Leslie merely discuss fraud detection, and fail to teach or suggest a workers' compensation claims verification system that electronically supplies matching workers' compensation claim numbers to corresponding ones of sending provider computers, wherein the providers use the supplied claim numbers to prepare the billings – as is recited by Claim 1.

In an apparent attempt to remedy this clear deficiency of Leslie, the Maych 4, 2007 Office action states, that despite the September 25, 2006 Office action's clear reliance on Leslie, the rejections actually relied upon John, at paragraphs 8-14 on page 3 and 1-4 on page 4 in these regards. However, these cited passages also fail to teach or suggest a workers' compensation claims verification system that electronically supplies matching workers' compensation claim numbers to corresponding ones of the sending provider computers, wherein the providers use the supplied claim numbers to prepare billings – as is recited by Claim 1.

Instead, the cited portions of John only generally discuss predictive software solutions and context vector analysis, and some possible uses. This fails to remedy the deficiency of Leslie.

More particularly, the seventh and eighth paragraphs on page 3 of John recite:

[P]redictive software solutions can be developed to:  
[D]etermine the critical manage/don't manage decision for case management of group health and workers' compensation claims and quantifying the value of the case management process. Nurses and adjusters spend their time more efficiently, managing only those cases for which it is cost effective to do so.

Accordingly, this passage merely suggests that some predictive technology may be used by an insurance company to select which claims should be nurse/adjuster managed and which

claims should not be nurse/adjuster managed from a financial standpoint. This has nothing to do with assisting providers to prepare workers' compensation claims billings.

The ninth through twelfth paragraphs on page 3 of John recite possible functions for which the author believes predictive software solutions can be developed as follows:

[D]etermine the potential for subrogation on medical, auto, and other types of claims.

[D]etect fraud earlier and more accurately than any other method currently available.

[P]rovide an objective and automated means of assessing risk for insurance underwriting.

[I]dentify what customers can use which products, based on the customer's behavior in real-time.

Again, these possible functions have nothing to do with assisting providers to prepare workers' compensation claims billings.

The first three cited paragraphs on page 4 of John add little in this regard. Instead they merely discuss that "next generation" context vectors analysis can be used to accomplish: automated responses to incoming e-mails; interpret case management notes; and target customers for new products.

Finally, the last cited paragraph on page 4 of John recites:

In summary, predictive software solutions combine a unique set of technologies that allow insurers to deliver better service while increasing profitability through risk reduction, process efficiency and the ability to target products more effectively. Risk managers and the companies that employ them will also be beneficiaries of these improved efficiencies and will share in the increased profitability overall as risk and loss are reduced.

Simply stated, these passages fail to teach or suggest any system for assisting providers to prepare billings associated with workers' compensation claims – no less one that includes a verification system (2a) determining whether a matching claim number exists for the workers' compensation claim data sent from providers computers, and (2b) if a matching claim number does exist, sending it to the corresponding provider computer, where it is used

in preparing billings, as is recited by Claim 1. Leslie and John instead only discuss fraud detection and predictive software applications in general.

For at least this reason, Appellant submits Leslie and John fail in any combination, to teach or suggest each of the limitations of Claim 1, and Claims 4, 6, 8-14 and 72-75, which each ultimately depend from Claim 1 -- and hence fail to render any of these claims obvious.

**2. *Leslie and John fail to teach or suggest a verification system that sends indications of missing claim numbers to payer computers***

Not only does the recited verification system of Claim 1 send matching claim numbers to providers to help them prepare billings, it notifies one or more payers (who are different from the providers) when claim numbers matching provider requests are not found. Leslie and John are silent in this regard as well.

More particularly, Leslie and John fail, in any combination, to teach or suggest: a verification system determining whether a matching claim number exists for workers' compensation claim data sent from a plurality of provider computers (designated 2a), and if a matching claim number does not exist, sending an indication thereof to payer computer(s) (designated 2c). To be clear, when a matching claim number is found it is sent to a corresponding provider computer; and when a matching claim number is not found an indication is sent to a payer computer. Leslie and John fail to teach or suggest a system that communicates in such a manner with both providers and payers.

Again, the September 25, 2006 Office action argues Leslie discloses a workers' compensation claims verification system that receives claims data and sends indications of missing claim numbers to one or more payer computers, each being associated with a different payer. *9/25/2006 Office action, pg. 3, ll. 3-15*. The Office Action cites Page 3, Paragraphs 1-8, and Page 1, Paragraph 7 to Page 2, Paragraph 4. Applicant traverses this assertion.

Again, and as set forth above, these passages of Leslie discuss fraud detection. Further, they discuss fraud detection as it relates to individual insurers. *See, e.g., par. 3 ("In six months, HNC's software helped Workers' Compensation Fund of Utah identify 50 fraudulent claims.")*. Accordingly, the cited Leslie passage lack any teaching or suggestion, what-so-ever, regarding sending indications of missing claim numbers to payer computers, each being associated with a different payer -- as is recited as Claim 1.

In an apparent attempt to remedy this clear deficiency of Leslie, the March 4, 2007 Office action again states, that despite the September 25, 2006 Office action's clear reliance on Leslie, the rejection actually relied upon John at paragraphs 8-14 on page 3 and 1-4 on page 4. However, these cited passages of John again fail to teach or suggest a workers' compensation claims verification system that determines whether a matching claim number exists for workers' compensation claim data sent from a plurality of provider computers (designated 2a), and if a matching claim number does not exist, sending an indication thereof to payer computer(s) (designated 2c)– as is recited by Claim 1.

Instead, and as set forth above, these cited passages of John only generally discuss predictive software solutions and context vector analysis, and possible uses. These passages merely suggest that predictive solutions may be used by an insurance company to determine how to manage claims and identify new business. Nowhere do these passages, or for that manner any other portions of Leslie or John, teach or suggest a verification system that sends matching claim numbers to providers to help them prepare billings, and notifies one or more payers when claim numbers matching provider requests are not found

For at least this reason, Appellant submits Leslie and John fail in any combination to teach or suggest each of the limitations of Claim 1, and Claims 4, 6, 8-14 and 72-75, which each ultimately depend from Claim 1 -- and hence fail to render any of these claims unpatentably obvious as a matter of law.

### **3. Leslie and John Fail To Place The Public In Possession Of The Claimed Invention.**

Notwithstanding that the foregoing deficiencies of Leslie and John are sufficient to require reversal of the appealed rejections, Applicant further submits that Leslie and John fail to enable the system of Claim 1. To serve as effective prior art references and render the pending claims unpatentable, Leslie and John must enable the subject matter they are asserted to teach. *See, Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1354, 65 USPQ2d 1385, 1416 (Fed. Cir. 2003) ("*A claimed invention cannot be anticipated by a prior art reference if the allegedly anticipatory disclosures cited as prior art are not enabled.*"). Put another way, in order to render any of the pending claims unpatentable, Leslie and John must enable one of skill in the art to make and use the recited systems thereof – including the recited verification system. *See Bristol-Myers Squibb v. Ben Venue Laboratories, Inc.*, 246 F.3d 1368, 1374, 58 USPQ2d 1508, 1512 (Fed. Cir. 2001) ("*To anticipate the reference must also enable one of skill in the art to make and use the claimed invention.*"); *PPG Industries*,



*Inc. v. Guardian Industries Corp.*, 75 F.3d 1,558, 1,566, 37 USPQ2d 1618, 1624 (Fed. Cir. 1996) ("To anticipate a claim, a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter.').

Even a cursory review of Leslie and John reveals that these non-technical articles fail, in any combination, to enable one of ordinary skill in the art to make and use a system for assisting providers to prepare billings associated with workers' compensation claims – no less one that includes the recited verification system of Claim 1.

Turning first to Leslie, it merely summarizes what different companies purportedly are developing and plan to develop. Leslie fails to teach a skilled artisan how to make and use any of the systems discussed therein -- no less the detailed system of the Claim 1. The relied upon portions of Leslie merely discuss different fraud detection systems. Leslie alleges that workers' comp fraud, automobile insurance fraud and automobile and workers' comp subrogation modules are being tested, but fails to explain how one would make or even use such a system – no less how to make or use the system of Claim 1. Simply put, Leslie, fails to teach or suggest how to make or use any system for assisting providers to prepare billings associated with workers' compensation claims – no less one that includes the recited verification system of Claim 1.

The John reference is similarly deficient as John merely presents a generalized discussion of efforts to develop software systems and asserts that systems be developed to achieve certain results. John fails to enable one of ordinary skill in the art to make or use any of the systems identified in John and asserted to be under "testing" or "development" -- no less the specified system of Claim 1. For example, John does not teach a skilled artisan how to actually make or use any predictive software solution system. There is no discussion as to what processes may be used to achieve such desires. John provides no flow diagrams, software programs, implementation guidelines, algorithms, functional blocks, or any other mechanism by which one of ordinary skill in the art, upon reading John, would be able to make or use the system of Claim 1.

Thus, John also fails to teach any system for assisting providers to prepare billings associated with workers' compensation claims – no less such a system that includes the recited verification system of Claim 1.

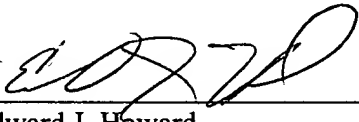
Accordingly, Applicant submits a *prima facie* case of obvious is lacking, at least by virtue that Leslie and John also fail, in any combination, to place the public in possession of the system of any of the pending claims.

**VIII. CONCLUSION**

Reversal of the 35 USC 103(a) rejections of Claims 1, 4, 6, 8-14 and 72-75 as being unpatentable over the Leslie article ("High Tech Sleuths", Leslie Hann, Best's Review, Nov. 1998) in view of the John article ("Technology: Unlocking the Neural Network", John Mutch, Risk and Insurance, Jan. 1999), as asserted in the appealed rejections is thus requested, as: (1) Leslie and John fail, in any combination, to teach or suggest, each of the limitations of the computerized method of any of the pending claims; and/or (2) Leslie and John fail, in any combination, to place the public in possession of any of the inventions recited by the pending claims.

Respectfully submitted,

By:

  
\_\_\_\_\_  
Edward J. Howard  
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**CLAIMS APPENDIX**

1. A system for assisting providers to prepare billings associated with workers' compensation claims, comprising:
  - a workers' compensation claims verification system;
  - software accessed at a plurality of provider computers, the software prompting providers to input data concerning workers' compensation claims, and sending electronic claim number requests containing at least some of the inputted data across the Internet to the workers' compensation claim verification system;
  - wherein, the workers' compensation claims verification system
    - receives the data contained in the electronic claim number requests; and
    - determines whether matching workers' compensation claim numbers associated with the received data exist;
    - electronically supplies the matching workers' compensation claim numbers determined to exist to corresponding ones of the sending provider computers, wherein said providers use said supplied claim numbers to prepare the billings, and
    - automatically sends an indication of the lack of determining the workers' compensation claim number to at least one of a plurality of payer computers, each being associated with a different payer, for each matching workers' compensation claim number determined not to exist.
- 2 - 3. (Cancelled)
4. The system of Claim 1 wherein the workers' compensation claims verification system further electronically requests a workers' compensation claim number from a selected one of said plurality of payer computers.

5. (Cancelled)

6. The system of Claim 1 wherein the software accessed at the provider computer further uses the matching claim number received from the workers' compensation claim verification system to produce medical treatment reports.

7. (Cancelled)

8. The system of Claim 1, wherein the workers' compensation claim verification system contains claim data for a number of payers.

9. The system of Claim 1, wherein the workers' compensation claim verification system is updated with data obtained from said payer computers.

10. The system of Claim 1, wherein said at least some of the data includes name data, social security data, and injury date data.

11. The system of Claim 1, wherein the workers' compensation claim verification system comprises a database at a server.

12. The system of Claim 11, wherein the workers' compensation claim verification system further:

receives at least one claim number from said payer computers; and

matches the claim numbers with associated claim verification requests.

13. The system of Claim 1, wherein the workers' compensation claim verification system further receives a plurality of unassigned claim numbers from said payer computers and assigns the unassigned claim numbers in response to claim verification requests received from provider computers.

14. The system of Claim 1, wherein the workers' compensation claim verification system includes software that further allows each provider computer to access a payer computer, and each payer computer to access each provider computer.

15. (Cancelled)

16 – 54. (Withdrawn)

55 – 71. (Cancelled)

72. The system of Claim 1, wherein each payer is a different insurer.

73. The system of Claim 72, wherein each sent indication alerts the associated insurer of a potential lack of claim incident information.

74. The system of Claim 72, wherein each indication prompts the associated insurer to request claim incident information from an insured.

75. The system of Claim 74, wherein each provider is a doctor having an associated patient having an associated employer, wherein the employer is the insured.

**EVIDENCE APPENDIX**

None.

**RELATED PROCEEDINGS APPENDIX**

None.



**TABLE OF CASES APPENDIX**

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<i>PPG Industries, Inc. v. Guardian Industries Corp.</i> , 75 F.3d 1,558, 1,566 (Fed. Cir. 1996) ..	15

**LIST OF REFERENCES APPENDIX**

**NON- PATENT REFERENCES**

“High-Tech Sleuth” by Leslie Werstein Hann. Best’s Review. (Property/casualty insurance edition). Oldwick: Nov. 1998. Vol. 99, Iss. 7; pg. 83 3 pgs.)

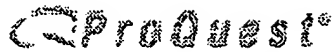
Risk & Insurance “Technology: Unlocking the Neural Network” by John Mutch.

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## High-tech sleuths

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### Abstract (Document Summary)

In addition to their instincts and investigative skills, insurance fraud fighters now have another set of tools to help them track down criminals: powerful new software systems. Travelers Property & Casualty uses a home-grown application that does link analysis, showing claims with the same names, addresses and license plates in New York state, for example. It is working with a technology company to develop a system for scoring claims based on the likelihood they are fraudulent, and it is doing the final testing on a fraud-detection system based on similarity search technology from InfoGlide Corp.

Full Text (1562 words)

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#### [Headnote]

Powerful new software systems help insurance investigators uncover fraud more effectively.

In addition to their instincts and down-and-dirty investigative skills, insurance fraud fighters now have another set of tools to help them track down criminals: Powerful new software systems promise to dramatically improve their results.

Travelers Property & Casualty and Reliance Insurance Co. are among the insurers testing new systems to help them identify and investigate potentially fraudulent claims. "This is a huge leap forward to systematically look at the problem of fraud," said Gary Smith, director of fraud management for Travelers, Hartford, Conn.

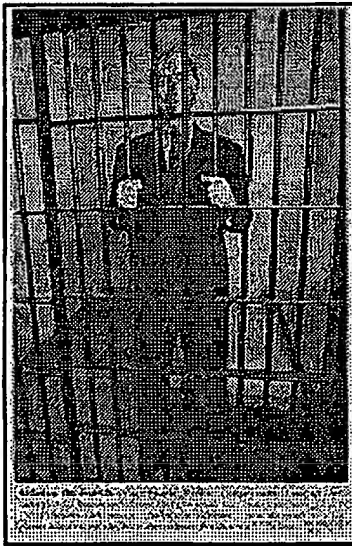
The insurer is developing a threetiered approach to fighting fraud. Travelers, which has more than 175 investigators, uses a home-grown application that does "link analysis," showing claims with the same names,

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addresses and license plates in New York state, for example. It is working with a technology company to develop a system for "scoring" claims based on the likelihood that they are fraudulent, and it is doing the final testing on a fraud-detection system based on "similarity search" technology from Infoglide Corp., Austin, Texas. Infoglide describes its similarity-search technology, which received a patent last year, as "an entirely new database architecture" that can identify complex patterns in data from a host of different sources.

When an auto claim came in with three digits of a seven-digit license plate number, Infoglide's system identified the car as part of an organized ring, Smith said.

"Most individuals using it are not systems disciples; they type two fingers at a time," Smith said. "It thinks like an investigator does. That's what I found most attractive." If the Infoglide software passes the final Travelers' tests, which determine its effect on other parts of the company's systems, the insurer plans to use it across all lines. In workers' compensation, Smith said, he can run his claims against Social Security and death records to identify people who died in the last month but are still receiving benefits.



Enlarge 200%  
Enlarge 400%

[Photograph]  
Refining the Search:

"We can load third-party data, and that really just enhances our investigative capabilities," Smith said. "In the past, all of this information was available, but it was a manual process, and the systems spoke different languages. It's only very recently that programs have been written in a way that would allow them to cross boundaries."

Conning & Co., an asset management and insurance research firm based in Hartford, Conn., recently invested \$5.7 million in Infoglide. Insurance Services Office Inc., New York, is testing Infoglide's product as well as products developed by other vendors for use in the all-claims database it is developing, said ISO spokesman Christopher Guidette. ISO wants to integrate technology that will allow it to look across different lines of insurance to identify similarities in claims patterns and other common links in the data, he said.

Fraud investigators have been clamoring for an all-claims database for years. It ranked second in a 1992 survey by the Insurance Research Council that asked fraud investigators what they needed to increase their efficiency. Increased training and staffing ranked first.

ISO became the provider of the allclaims database after it acquired American Insurance Services Group last October and in February began managing the National Insurance Crime Bureau's claims and related databases. ISO has been "building bridges" to link the databases, which include bodily injury, workers' compensation, property and vehicle claims, Guidette said. By the middle of next year, the consolidated database, renamed ClaimSearch, will be "fully operational with all the bells and whistles," he said.

Policy Management Systems Corp., Columbia, S.C., is evaluating fraud-detection systems as part of a menu of expanded claims services, said Stephen Francis, vice president of product development for PMSC, which licenses

claims systems to insurers and also processes claims as an outsource vendor.

Infoglide's product "is very good expert software for identifying fraud rings," Francis said. "But that's the downside, too, because most fraud that occurs is on an individual basis." PMSC also is evaluating software that scores individual claims based on the likelihood that they are fraudulent. That software, offered by HNC Insurance Solutions, a business unit of HNC Software Inc., Irvine, Calif., is based on the same technology that HNC's parent company uses to detect credit-card fraud.

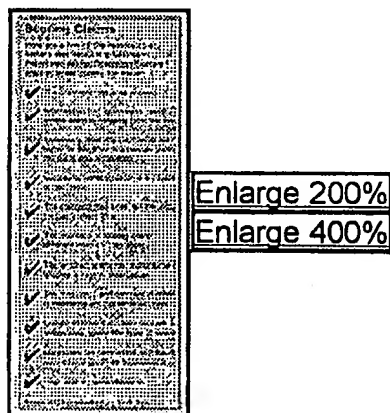
**Saving Time-And Money** In a 1996 study, Conning estimated that insurers lost \$19.4 billion to claims fraud in 1994 and \$163 billion over the previous 10 years. Fraudulent claims in workers' compensation "easily outstrip those in other lines of business," according to the report. It attributed 25% of workers' compensation losses, or \$5.66 billion, to fraud in 1994 and \$58.7 billion over the previous 10 years.

In six months, HNC's software helped Workers' Compensation Fund of Utah identify 50 fraudulent claims, saving \$500,000 on the first eight cases that were closed, said Bob Short, senior vice president of the Salt Lake City-based insurer.

The VeriComp Claimant Fraud and Abuse Detection System software scores all open claims weekly based on 62 factors. The system automatically alerts adjusters to claims that score 500 or more, and the claims that hit 800 are automatically referred to a special investigator, Short said. The notices indicate why the system flagged the claim as potentially fraudulent, he said.

The system does not replace adjusters or investigators, Short said. It's just a tool that helps them identify the cases that are most likely to be fraudulent.

"In addition to being a fraud-detection system, from an operations standpoint, it's a management tool because we can use our resources better than before because we are not wasting time on cases that aren't fraudulent, he said. It's identifying about 25% more cases that are potentially fraudulent and is finding fewer "false positives," Short said. The system uses the same "neural network modeling" that HNC Software uses to detect credit-card fraud, said Sean Downs, president of HNC's workers' compensation division.



Scoring Claims

"It develops real-time fraud profiles based on the payment transactions that come in on a claim," Downs said.

By running weekly reports, Short said, his investigators have a better chance of finding potential abuses faster. When Workers' Compensation Fund of Utah was testing VeriComp, the system identified the fraud sooner than claims adjusters did 67% of the time, Downs said. The system found fraud an average of six months sooner, saving an average \$13,500 per claim, he said.

HNC is working with insurers to build other fraud-detection systems using the same technology, Downs said. Reliance Insurance Group, Philadelphia, will test four modules in addition to one like the Utah company is using, he said. They are workers' comp employer premium fraud; automobile insurance fraud; and automobile and workers' comp subrogation. Cigna's workers' comp unit is testing a module that scores claims on the probability of

managed-care savings, Downs said.

The employer premium module would look for employers that misclassify employees or suppress payroll to fraudulently obtain lower premiums, Downs said. The **subrogation** module would score claims based on the **probability** that a third party could recover money. Most of the modules are under construction.

The systems are being customized to fit the claim characteristics and historical examples of fraud for the specific insurer, Downs said. Next year, the software will evolve to a "consortium model," in which data from several insurers are combined, he said.

#### Turning Up The Heat

Barry Zalma, an insurance defense lawyer who has written books on fighting fraud, said he was in favor of any tools that improve the quality of referrals to investigators. But he is concerned that some insurers may view expert systems as a way to save costs by hiring fewer and less-experienced adjusters and investigators. Adjusters and fraud investigators rely on "checklists" for items or patterns that raise red flags, Zalma said, but those red flags are just as likely to apply to a valid claim as a fraudulent one.

"If anybody believes that a red flag means there's fraud, they are going to get in deep trouble," Zalma said. "Red flags only mean you ought to investigate further."

Downs of HNC said use of the system might justify an increase in investigators "if you have more high-quality referrals and not enough people to work on them." He cited an Insurance Research Council report that determined the typical return on investment for a fraud investigator is 10 to 1.

For Workers' Compensation Fund of Utah, VeriComp is one tool in a broader fraud-fighting initiative, Short said. The company started its fraud department in 1993 by hiring a Salt Lake City police lieutenant, and now has six former police officers in the unit. The company has saved \$5 million a year in fraudulent claims, which is substantial to a company with \$114 million in net premiums written, Short said. In the past 3 1/2 years, 120 cases that were turned over to prosecutors resulted in convictions, Short said.

By turning up the heat on fraud including a TV advertising campaign publicizing the effort-claims for back injuries dropped 30%, he said.

All fraud-detection systems turn up false positives at some point, Downs said. In Utah, the system gave a high score to a case involving a paraplegic with very unusual medical activity, Downs said, but it was due to the nature of his injuries rather than fraud.

"The system gives the reasons the claim scored highly," Downs said, "and with a quick review, the adjuster can determine if it's for good reasons or if it needs to be investigated." Im

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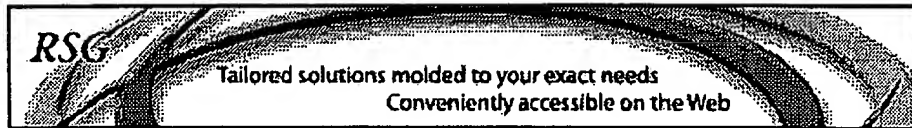
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## "Technology: Unlocking the Neural Network"

by John Mutch

January 1999

Sidebar Article: ["The Case of the \\$800,000 Man"](#)

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**A new category of software combines the expertise of the most experienced human being with a computer's ability to process thousands of variables simultaneously. The result is better decision-making, improved profitability, and more efficient claims operations.**

Neural networks are no longer limited to science fiction. A new category of software that uses these networks is rapidly being deployed within the insurance, health care, and workers' compensation industries. These applications effectively address critical provider, payer, and risk management profitability issues such as risk reduction, fraud detection, business process efficiency, and customer relationship management.

Working much like the human brain, these solutions can predict the outcome of a situation earlier and more accurately than any other method currently in use, extracting value from a data stream that is otherwise too unwieldy to be useful. They offer an



automated, faster and more flexible alternative to traditional approaches to analyzing data. The result is better decision-making, improved profitability, and more efficient operations that benefit risk managers, insurance carriers, third-party administrators, and employers.

These new applications are commonly referred to as predictive software solutions. They combine a traditional "rules-based" software approach with advanced forms of artificial intelligence and pattern recognition technology to deliver "predictive value."

Before the introduction of predictive software solutions, data analysis techniques were primarily rules- or red flag-based, identifying transactions that differed from specific rules. But, as we all know, human behavior is complex and constantly changing. The pattern of insurance fraud, for example, resembles more the ever-changing amoeba than the "box" of suspects identified by rules-based programs.

Predictive software solutions are based on a combination of rules-based and neural networks. A neural network is software that builds and implements mathematical equations called models. Neural networks are built from historical data; the network is then "trained" so that it recognizes which inputs have a significant effect on the prediction. The neural network automatically discovers not only additive linear relationships among data, but also iterative, nonlinear relationships.

From the historical data, the network learns how to combine independent variables to produce the desired outcome. The network begins training by making predictions with randomly adjusted weights. It then compares its predictions with the known results and adjusts each weight so that it causes less error. After reviewing thousands of examples hundreds of times, the network learns patterns and trends that enable it to make accurate predictions.

## **Fraud Detection**

What is the scope of potential savings from predictive solutions? In the United States, losses due to workers' compensation fraud are estimated at more than \$5 billion; but only about 20 percent of this fraud is detected. Losses from automobile claimant fraud are even greater; estimated at \$13 billion to \$18 billion in unnecessary claims costs.

These are just two areas in which predictive software can generate dramatic savings through earlier and more accurate fraud detection. In the financial services sector, the use of predictive software solutions has already decreased credit card fraud by up to 50 percent in just a few years.

The overall demand and growth for predictive technology is enormous and growing exponentially. The 1998 market for predictive technology was estimated at \$1.6 billion; the market is expected to more than double by the year 2000, to \$3.7 billion. Within the last decade, predictive software solutions have become the industry standard in financial services; 84 percent of the credit card transaction of major U.S. carriers now use the industry's leading predictive software fraud-detection product. It is expected that the risk management and insurance industries, as well as other transaction-intensive fields, will quickly follow suit.

## **Better Claims Processes**

An example of the value of predictive technology is its application in analyzing and interpreting claims data. In the insurance and health care industries, there is a tremendous wealth of untapped potential in the voluminous raw data associated with claims information. The application of predictive solutions to these data streams enables risk managers and insurance and health care decision-makers to obtain

answers to such pressing questions as:

- 1 How much of a claim's cost can be reduced if a nurse case manager actively manages a specific case?
- 2 How likely is it that case management will reduce the claim cost by the forecasted amount?
- 3 Which claims are misrepresented by claimants or fraudulently handled by the provider?
- 4 Which claims have suspect quality of care variance, such as excessive physical medicine treatments?
- 5 Which companies are most likely to need a particular product or service to enhance their operations?
- 6 Answers to these and other critical questions can be found only through the intervention of a software system that can analyze massive amounts of complex data. Predictive software solutions combine the expertise of the most experienced human being with the ability to process thousands of variables simultaneously. These predictive solutions can update individual profiles in real-time as each new transaction presents itself and process hundreds of variables simultaneously to determine decisions and outcomes—a feat far beyond the capability of the human mind.
- 7 Predictive software solutions can be deployed in risk management and insurance in most situations in which decisions need to be made based on a large volume of data. For example, predictive software solutions can be developed to:
  - 8 Determine the critical manage/don't manage decision for case management of group health and workers' compensation claims and quantifying the value of the case management process. Nurses and adjusters spend their time more efficiently, managing only those cases for which it is cost-effective to do so.
  - 9 Determine the potential for subrogation on medical, auto, and other types of claims.
  - 10 Detect fraud earlier and more accurately than any other method currently available.
  - 11 Provide an objective and automated means of assessing risk for insurance underwriting.
  - 12 Identify what customers can use which products, based on the customer's behavior in real-time.

## The Next Generation

- 13 Context vector analysis is considered the next generation in predictive software solutions. Context vector analysis is new, powerful technology that provides the ability to characterize the content of free-text information; for example, an e-mail, a set of nurses' notes, an adjuster's report; and interpret that text in mathematical terms. These mathematical representations, called "vectors," can be matched to libraries of other mathematically represented information, such as specific health care directives, customer service information and new product offerings. Context vectors can be applied to:
  - 14 Automate responses to incoming electronic communications like e-mails, an important

step in improving efficiencies as interactive communications and transactions over the Web increase;

- 1 Interpret case management notes to target specific communication to the nurse in real-time about his or her patients and about treatment options;
  - 2 Automatically identify exceptions in claims processing based on the text of written notes and reports; and
  - 3 Target customers for new products based on their information requests and purchase patterns.
- 4 In summary, predictive software solutions combine a unique set of technologies that allow insurers to deliver better service while increasing profitability through risk reduction, process efficiency and the ability to target products more effectively. Risk managers and the companies that employ them will also be beneficiaries of these improved efficiencies and will share in the increased profitability overall as risk and loss are reduced.

*John Mutch is president of HNC Insurance Solutions in Costa Mesa, Calif. HNC Insurance Solutions is a division of HNC Software Inc., a developer of predictive software solutions in client-server environments.*